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INFORMATION ON THE DOUGLAS FIR BEETLE  
IN IDAHO AND MONTANA

The Douglas fir beetle (Dendroctonus pseudotsugae Hopk.) attacks weakened and healthy Douglas fir, big-cone spruce, and western larch. The adult beetles, which are stout, reddish to blackish brown, cylindrical bark beetles, about two-tenths of an inch in length, bore through the bark and construct rather straight, perpendicular galleries, from 10 to 14 inches in length, directly between the bark and wood. Eggs are laid along this gallery in alternate groups along the sides. These soon hatch into small, white, legless grubs, or larvae, which excavate rather long larval mines which often mark the surface of the wood, extending at right angles from the main, or egg gallery. The transformation of the larva to the pupa takes place in a cell at the end of the larval mine which is often concealed in the inner bark. When the transformation is complete the new adult bores a hole through the bark and soon after emergence attacks a new tree. Though, as a general rule, there is but one generation of this insect per year, the individuals of that generation vary so in development that there is a decided overlapping in their emergence. The combined result of a large number of egg galleries and larval mines is the girdling of the tree and this causes its death. To kill a tree the beetles must be in sufficient numbers to overcome its resistance. The attack usually extends throughout the merchantable length of the bole. On the trees with thick bark, however, the base of the tree is often free from attack.

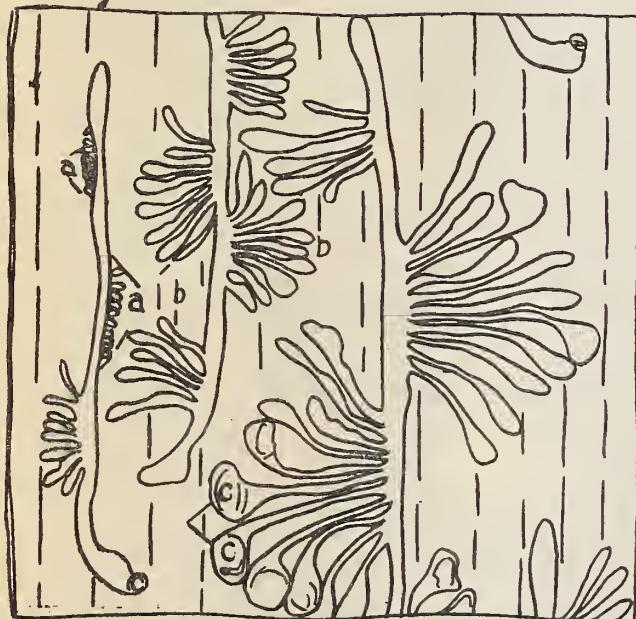
Trees that have been attacked by the Douglas fir beetle can be distinguished by their discolored foliage or by the reddish boring dust lodged in the crevices of the bark and lying at the bases of the trees. In locating trees by the discolored foliage care must be taken to distinguish between those which contain broods and those from which emergence has occurred. To conclude that trees contain bark-beetle broods because they have discolored foliage is not safe. The trees should be examined to see if they are infested. The foliage of the infested trees may start to fade during the fall following the attack, or it may not turn brown until the following spring.

In plans for controlling an outbreak of this insect it must be remembered that when a tree is once successfully attacked it can not be saved. Nevertheless, the broods which it contains can be destroyed and this will prevent them from attacking other trees. This can be accom-



plished by felling the tree and peeling the bark from the infested portion of the trunk. As the development of this insect occurs between the bark and the wood, the exposure of the broods while they are in the larval or pupal stage soon results in their death. Under certain conditions it will be found to be more economical to deck and burn or severely scorch the infested logs. Control measures instituted against an outbreak of this insect should be conducted during the fall or early winter in order that the most satisfactory results may be secured.

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The Douglas fir beetle: a, eggs;  
b, larval mines; c, pupal cells.  
(Reduced)



Adult Douglas fir beetle  
(Greatly enlarged)

